NEED PERMISSION

WK4
Watching Photo-induced Dynamics with Ultrafast X-ray Structural Analysis

Shin-ichi Adachi

Photon Factory, KEK, Japan

Time-resolved X-ray techniques utilizing the pulsed nature of synchrotron radiation are becoming general and powerful tools to explore structural dynamics in materials and biological sciences. It will be fascinating to apply such capability to capture ultrafast cooperative phenomena in strongly-correlated electron systems, photochemical catalytic reaction dynamics in liquid or on solid surface, light-induced response of photosensitive protein molecules, etc.

We are conducting a wide variety of 100-ps time-resolved X-ray measurements, such as time-resolved X-ray diffraction, scattering and spectroscopy at Photon Factory Advanced Ring (PF-AR), High Energy Accelerator Research Organization (KEK), Tsukuba, Japan. KEK's future plan of energy recovery linac (ERL) with XFELO option will expand the capability of future time-resolved X-ray measurements down to femtosecond domain. The current status and future perspective will be demonstrated.